Results: There were no perioperative problems with the contour of the plate or any metalwork failure. All fractures healed. Complications included one superficial infection treated with oral antibiotics and one implant removal at 7 months due to deep infection.

Discussion: Our study shows that VLP in lateral malleolus fracture is a safe and effective method of fixation. Advantages include anatomic contour, variable angle for locking screws and consistent provision of at least 3 screws in the distal fragment, even in low Weber B fractures where a 1/3 tubular plate would provide fixation with only 2 distal screws. These characteristics may be beneficial in osteoporotic bone and comminuted fractures. Randomised controlled trials are required to assess these advantages in specific types of lateral malleolus fractures.

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1B.55

Should the posterior tibial tendon be routinely explored for damage in displaced medial malleolar fractures?

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Background: Ankle fractures represent an increasing workload, particularly in the elderly female population. The posterior tibial tendon is exposed to injury during displaced medial malleolar fractures. Posterior tibial tendon dysfunction delays rehabilitation and results in significant morbidity and is most prevalent in women over 40.

Objective: To ascertain whether posterior tibial tendon should be routinely explored in displaced medial malleolar fractures and consequently should post-operative rehabilitation of ankle fractures be modified. Exploring the tendon may help with this diagnosis and consequently alter post-operative rehabilitation.

Method: We performed a prospective case series of 25 patients with displaced medial malleolar ankle fractures admitted to the Royal Victoria Hospital Belfast over a four month period (8/8/09–11/11/09). The admission notes were then checked for any previous injuries and the initial reduction was assessed radiologically. At the time of surgery the primary operator explored the posterior tibial tendon. An incision was made in the flexor retinaculum and the tendon was assessed for damage using the following scale (nil, bruising, superficial, partial tear, complete tear).

Results: The average age was 58. The majority of injuries were Weber B (20/25), bimalleolar (19/25), had an initial satisfactory reduction (19/25) and had the surgery performed by SPR/STR (22/25). The mechanism of injury was reported as mainly supination-external rotation (13/25). Eight patients were reported as having superficial damage and one with a partial rupture. Of note all patients under the age of forty included, were reported as having no damage to posterior tibial tendon.

Conclusion: This study does not support the routine exploration of the posterior tibial tendon in displaced medial mallelor fractures. However, the study would advocate an altered post op regime for at risk groups for posterior tibial dysfunction.

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How good is our ankle fix?

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Background: Anatomic reduction and fixation of ankle fractures is necessary to prevent posttraumatic arthritis. Malunion of the distal fibula in particular, may lead to progressive talar instability.

Aims: To assess the anatomical reduction ankle fractures in the Royal Victoria Hospital Trauma Unit.

Materials and methods: A retrospective radiographic review of all ankle fractures admitted from February 2008 to February 2009 was undertaken. Pre-operative films were assessed and injury was classified using the Weber system for fibular fracture. The presence of a medial or posterior malleolar fracture was also noted. The fixation undertaken was recorded by assessment of the intra-operative screening films. Talar tilt, tibiofibular overlap and tibiofibular clear space were measured on the post-operative AP radiograph. Medial clear space, tibiofibular overlap, talar shift, talar tilt and the talocrural angle were measured on the postoperative mortice radiograph. Normal values for the radiographic measurements were taken from published literature.

Results: Of the 244 patients identified through the unit's database, 181 (74.2%) had sustained an ankle fracture; the remainder (25.8%) were miscoded.

Bimalleolar fractures were common (53%). An isolated medial or lateral sided injury was present in 31.5% of cases and the remaining 15.5% were trimalleolar fractures.

Four patients (2%) required early revision surgery because fixation was not anatomical. Talar tilt on the AP and mortice view and medial clear space measurements were useful in the detection of these cases. Tibiofibular overlap was not a reliable measurement as the majority of cases fell outside the normal reference range.

Conclusion: Over 85% of patients were anatomically reduced on radiographic measurements alone. Some cases were reduced despite measurements which fell outside the commonly reported reference range. This suggests that some of the measurements were unreliable or overly sensitive.

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1B.57

Do undisplaced stable ankle fractures ever displace—are we subjecting our patients to unnecessary radiation and follow-up appointments?

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Aim: To assess whether stable undisplaced ankle fractures treated conservatively with a below knee non weight bearing cast ever displace.

Methods: Retrospective case notes analysis was performed. Between August 2007 and August 2009, 121 patients sustained a stable undisplaced ankle fracture which was treated conservatively. Their age range was from 16 to 86 years. Male to female ratio was 74:47. The mean number of clinic follow ups was 3.7 (range 4–12 weeks). These patients were classified according to the Danis-Weber Classification for analysis. Thirty (25%) patients had Weber A1 fractures, seventy-two (60%) had Weber B1 fractures, five patients (4%) had Weber B2 fractures, three patients (2%) had Weber C1 fractures, ten patients (8%) had isolated medial malleolus fracture and one patient suffered an isolated posterior malleolus fracture.